

2/4 Channel Tausand Abacus coincidence counter



Features

- Coincidence counter with 2ns resolution
- BNC inputs coupled at 50Ω
- Adjustable settings:
 - sampling time: 1ms to 1000s
 - coincidence window: 2ns to 10μs
 - delay, to allow time compensation
 - sleep time, to avoid after-pulsing
- Standalone operation; no PC required
- LabView, Matlab and Python libraries for USB data and settings communication
- Ideal to measure temporal correlations in particle detection and quantum optics experiments

Specifications

Performance

	AB2502	AB2504
Input channels	2	4
Single channel counters	2	4
2-fold coincidence counters	1	6
3,4-fold coincidence counters	none	1

The 3 or 4-fold coincidence counter is set anytime by the user between options ABC, ABD, ACD, BCD or ABCD.

	AB250x
Resolution & accuracy	2ns
Coincidence window	2ns–10μs
Input pulse rate	up to 40Mcps
Sampling time	1ms–1000s
Delay per channel	0ns–100 ns
Sleep time per channel	0ns–100 ns
Counter resolution	28-bit, up to 250M

Settings can be selected by the user anytime.

Controls

One on/off switch, one knob and two push buttons to navigate along settings and measurement menus. One OLED screen with backlight included.

Inputs

Rear-panel BNC connectors accept LVTTTL signals and offer an input impedance of 50Ω. With proper impedance matching, voltage seen by the Abacus will be half the input, like an oscilloscope coupled at 50Ω does.

Since LVTTTL standard recognizes 2V-3.3V as high level inputs, a 50Ω coupled device like the Abacus will recognize 4V-6.6V as high level inputs.

	Min	Max
High level input voltage	4.0V	6.6V
Low level input voltage	0.0V	1.6V



USB interface

Configuration and data acquisition can be done by using the rear-panel mini-USB port.

- Abacus software available.
- Python, Matlab and LabView libraries available.

Electrical and mechanical

Power provided by a single external wall adapter power supply (included).

Power supply	12VDC / 1A
Weight	1 lb
Dimensions	15.8 x 8.5 x 18.5cm